

Detection of Life Forms, Phase I

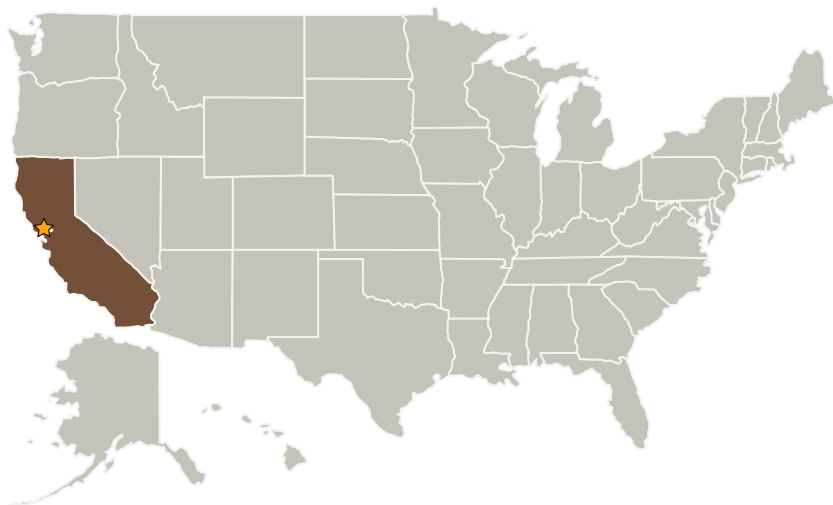
Completed Technology Project (2004 - 2004)



Project Introduction

Gaia Genomics proposes to develop an instrument for the detection of earthborn and/or planetary life forms that are based on a nucleic acid paradigm. Highly sensitive reagents will be developed to detect DNA- or RNA-based organisms. The components of the proposed system are simple, rugged, stable, and inexpensive, and detection will be both rapid and highly sensitive. In Phase I, we will synthesize the diagnostic reagents and demonstrate proof-of-concept by their ability to detect nucleic acids. In Phase II, they will be incorporated into a portable prototype instrument designed for single- or multi-sample detection. The resulting device will be ideal for use as a survey tool for NASA Astrobiology interplanetary missions (Topic S4, Sub-topic 05).

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Gaia Genomics	Supporting Organization	Industry	Point Richmond, California



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

California

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Thomas K Meehan

Technology Areas

Primary:

- TX08 Sensors and Instruments
 - └ TX08.3 In-Situ Instruments and Sensors
 - └ TX08.3.2 Atomic and Molecular Species Assessment